

# Antenna Installation Guide



700 MHz - 2700 MHz  
Wide Band Directional Antenna

PART# 304411  
304475  
308412

#### Features:

- High-gain
- Directional
- Pipe mounting hardware included
- Installs easily
- Weather resistant
- Wide bandwidth

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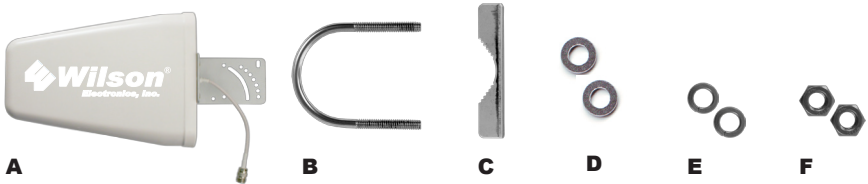
 **Wilson**<sup>®</sup>  
Electronics, Inc.

## How It Works

Wilson Electronics Wide Band Log Periodic Directional Antenna will collect the cell tower signal and send it through the cable to a signal booster, cell phone or cellular data card. When the cell phone or cellular data card transmits, the signal is transferred to a signal booster or directly to the antenna and broadcast back to the cell tower.

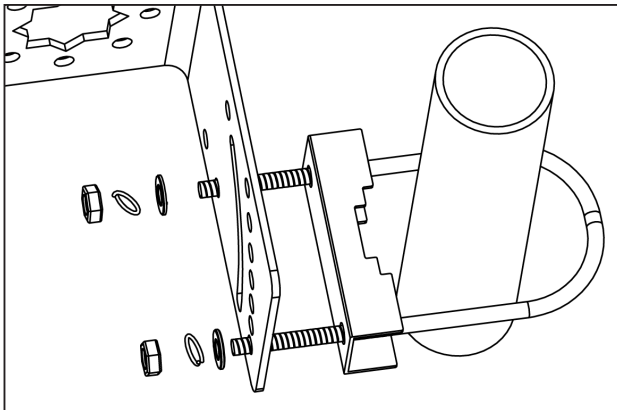
## Package Contents

(A) Wide Band Log Periodic Directional Antenna & L Bracket, (B) 2 - U-Bolts, (C) 2 - Pipe Brackets, (D) 4 - 1/4" Washers, (E) 4 - 1/4" Split-Lock Washers, (F) 4 - 1/4"-20 nuts.



### 308412 additional kit contents:

- 359933, 20" RG174 Cable with FME male to MCX Connector.
- 951137, 30" RG58 Cable.



## Antenna Mounting Instructions

- 1 – Install U-Bolt (B) on pole.
- 2 – Slide Pipe Clamp (C) over U-Bolt (B) Flat side away from pipe.
- 3 – Slide antenna bracket (A) onto U-Bolt (B) in desired location.

**Note:** Antenna may be installed on a variety of pipe angles, insure antenna is pointing at cell tower and is vertical with the drip hole at the bottom.

- 4 – Install Flat washer (D), split lock washer (E) and nut (F), tighten as appropriate.

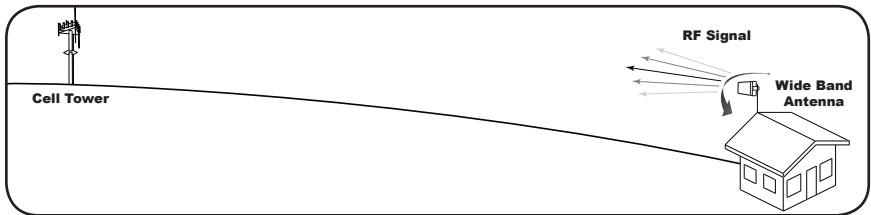
**Note:** A second U-Bolt assembly has been included to strengthen antenna mounting in windy areas repeat steps 1 thru 4 to install.



### Antenna Installation

The antenna should be mounted as shown in the illustration above. The included mounting bracket is adjustable and will accommodate pipe diameters from 1.25" to 2" (pipe sold separately). Mount the antenna so that there is at least 3 feet of clearance in all directions around it. Position the antenna so that it has the most unobstructed line of sight to the cellular service provider's strongest signal. If you are using a wireless signal booster, make sure the antenna is not pointing across your own roof.

**Warning:** Lightning protection is recommended for all installations (Wilson Electronics 50 Ohm Part# 859902 or 75 Ohm Part# 859988). Take extreme care to ensure that neither you nor the antenna comes near any electric power lines.



### Adjusting the Antenna for Maximum Performance

To adjust the antenna for best performance, connect it to your cell phone with an external adapter and a length of coaxial cable. External antenna adapters and coaxial cables are sold separately. Put the cell phone in test mode and turn the Antenna in 10-degree increments while checking the cell phone's signal level. At each point you may need to wait a few seconds as your cell phone updates. To find your phone's test mode, visit [www.WilsonElectronics.com](http://www.WilsonElectronics.com). Signal readings usually appear as a negative number (for example, -86). The larger the number, the more powerful the signal (-75 is stronger than -84).

### Antenna Adapter

An external adapter may be required to connect your cellular data card directly to the antenna. The external adapter is specific and may be purchased through a local retailer.

**Important:** If you are using a wireless signal booster, be sure the Antenna is not pointing across the building in which you are trying to get coverage. The antenna should point away from the building to help prevent oscillation (feedback).

Once you have obtained the strongest signal, fully tighten the mounting hardware.

Ultra low loss coax is recommended for lengths 20' or greater to prevent significant signal loss. Wilson Electronics offers cable in several lengths from 20-1000 feet. Wilson Electronics also offers a wide range of phone adapters to connect your cell phone to a signal booster, or directly to the antenna.

### 30-Day Money-Back Guarantee

All Wilson Electronics products are protected by Wilson Electronics 30-day money-back guarantee. If for any reason the performance of any product is not acceptable, simply return the product directly to the reseller with a dated proof of purchase.

### 90-Day Warranty

Wilson Electronics antennas are warranted for ninety (90) days against defects in workmanship and/or materials. Warranty cases may be resolved by returning the product directly to the reseller with a dated proof of purchase.

Antennas may also be returned directly to the manufacturer at the consumer's expense, with a dated proof of purchase and a Returned Material Authorization (RMA) number supplied by Wilson Electronics. Wilson Electronics shall, at its option, either repair or replace the product. Wilson Electronics will pay for delivery of the repaired or replaced product back to the original consumer with in the continental U.S.

This warranty does not apply to any signal boosters determined by Wilson Electronics to have been subjected to misuse, abuse, neglect, or mishandling that alters or damages physical or electronic properties.

## Antenna Specifications

Part Number	50 Ω - 304411 • 75 Ω - 304475					
Frequency Range	700 -800 MHz	800-915 MHz	915-1710 MHz	1710-1850 MHz	1850-1990 MHz	1990-2700 MHz
Gain	8.0 dBi	8.0 dBi	7.0 dBi	9.0 dBi	10.5 dBi	10.0 dBi
50 Ω VSWR avg.	1.6:1	1.4:1	1.3:1	1.2:1	1.2:1	1.2:1
75 Ω VSWR avg.	1.5:1	1.3:1	1.6:1	2.0:1	1.7:1	1.5:1
Horizontal Beamwidth	70° to 90°					
Vertical Beamwidth	85° to 110°					
F/B ratio	>20 dB					
Nominal Impedance	50 Ω - 304411 • 75 Ω - 304475					
Polarization	Vertical					
Maximum Power	100 watts					
Connector	50 Ω - N-Female • 75 Ω - F-Female					
Dimension	11.42" x 8.27" x 2.56" In					
Weight	3.31 lbs					
Temperature Range	-40° to 158° F					
Rated Wind Velocity	134 MPH					
Lightning Protection	DC grounded					

